

GUIDELINES FOR USING SODIUM HYPOCHLORITE AS A DISINFECTANT FOR BIOLOGICAL WASTE

INTRODUCTION

Sodium hypochlorite, commonly known as bleach, is most frequently used as a disinfecting agent. It is a broad-spectrum disinfectant that is effective for the disinfection of viruses, bacteria, fungi, and mycobacterium. However, sodium hypochlorite is **NOT** effective in the disinfection of bacterial spores and prions.

CONCENTRATION & CONTACT TIME

The appropriate concentration of sodium hypochlorite for disinfecting general liquid biological waste is 5000 ppm, approximately 0.5%. Household bleach is 5 - 6 % sodium hypochlorite; therefore a 1:10 (v/v) dilution of bleach to liquid biological waste is appropriate. For biological waste containing a high organic load (e.g. blood, proteins, or lipids) the appropriate concentration of sodium hypochlorite is 10000ppm, approximately 1%, therefore a 1:5 (v/v) dilution of bleach to liquid biological waste is appropriate.

Minimum Contact time:

Surface disinfection - 1 min

Liquid waste disinfection - 20 min

Important Notes:

Discount brands of bleach may have lower concentrations of sodium hypochlorite and "colour safe" bleach contains NO sodium hypochlorite (hydrogen peroxide), these products should **NOT** be used for the disinfection of biological waste.

Sodium hypochlorite is known to be **corrosive to metals**, therefore, it important to wipe down metal surfaces with water or ethanol after treating them with a bleach solution.

STABILITY & STORAGE

Bleach should be stored between 2-8 °C (50-70°F). According to Clorox, undiluted household bleach has a shelf life of six months to one year from the date of manufacture, after which bleach degrades at a rate of 20% each year until totally degraded to salt and water, and a 1:10 bleach solution has a shelf life of 24 hours.

Bleach must be stored separately from corrosives, soaps, detergents or other cleaning products.

HEALTH & SAFETY

Global Harmonized System (GHS) classification of sodium hypochlorite solution:

- Skin corrosion/irritation (Sub-category 1B)
- Serious eye damage/eye irritation (Category 1)
- Acute aquatic toxicity (Category 1)
- Chronic aquatic toxicity (Category 1)



Minimum Personal Protective Equipment (PPE) that **MUST** be worn when preparing or handling a sodium hypochlorite solution:

- Nitrile Rubber Gloves; and
- Canadian Standards Association (CSA) Approved Safety Glasses; and
- Respiratory protection (NIOSH Approved) should be used any time there is the potential for exposure to vapor and/or dust and a fume hood cannot be used; and
- Lab coat.

If sodium hypochlorite comes in contact with other cleaners containing ammonia or chlorine compounds, fatal levels for ammonia gas or chlorine gas can be produced. Never mix bleach with other chemicals.

EMERGENCY PROCEDURES

In the case of an exposure to eyes or skin, flush the area for 15 to 20 minutes with running water.

During Business Hours, bring the Safety Data Sheet (SDS) to UWO Workplace Health, UCC25 Ext. 82047

After business Hours, bring the SDS to the nearest Hospital Emergency Department.

I acknowledge, I have read, understood, and I agree to follow the contents of this guideline:

Name:

Signature:

Date: